(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
28 October 2004 (28.10.2004)

PCT

(10) International Publication Number
WO 2004/093150 A2

(51) International Patent Classification[7]: H01L

(21) International Application Number: PCT/US2004/011507

(22) International Filing Date: 14 April 2004 (14.04.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/414,563 15 April 2003 (15.04.2003) US

(71) Applicant *(for all designated States except US)*: **SAINT-GOBAIN CERAMICS & PLASTICS, INC.** [US/US]; One New Bond Street, P.O. Box 15138, Worcester, MA 01615-0138 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **NARENDAR, Yeshwanth** [IN/US]; 24 Huntington Avenue, #2, Worcester, MA 01606 (US). **BUCKLEY, Richard, F.** [US/US]; 8 Comstock Drive, Shrewsbury, MA 01545 (US). **HAERLE, Andrew, G.** [US/US]; 34 Manchaug Road, Sutton, MA 01590 (US). **HENGST, Richard, R.** [US/US]; 522 Barre Road, Oakham, MA 01068 (US).

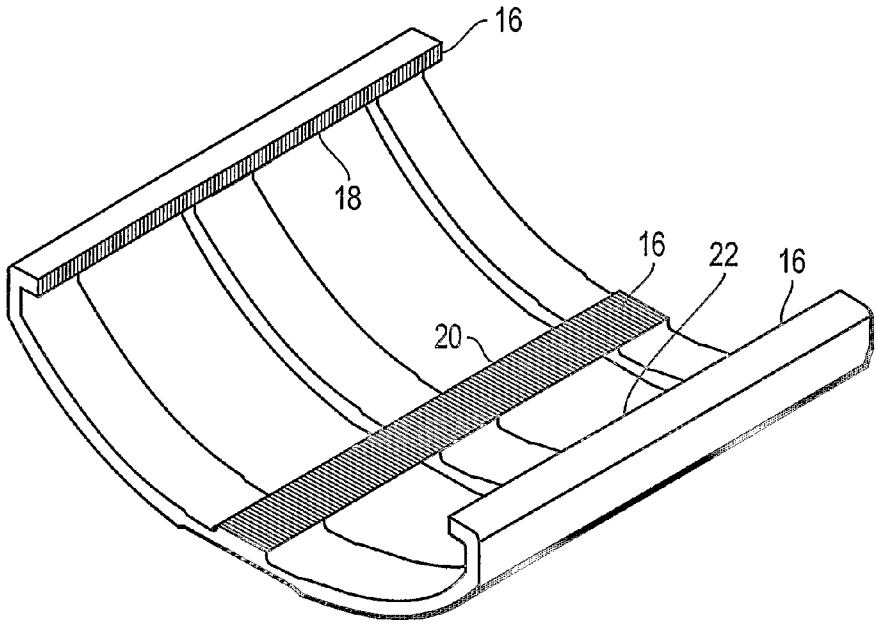
(74) Agent: **ABEL, Jeffrey, A.**; Toler, Larson & Abel, LLP, 5000 Plaza On The Lake, Suite 265, Austin, TX 78746 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR,

[Continued on next page]

(54) Title: METHOD FOR TREATING SEMICONDUCTOR PROCESSING COMPONENTS AND COMPONENTS FORMED THEREBY



(57) Abstract: Various semiconductor processing components and methods for forming same are disclosed. In one embodiment a semiconductor processing component is formed of SiC, and an outer surface portion of the component has a surface impurity level that is not greater than 10 times a bulk impurity level. In another embodiment a method for treating a semiconductor processing component includes exposing the component to a halogen gas at an elevated temperature, oxidizing the component to form an oxide layer, and removing the oxide layer.

WO 2004/093150 A2

GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.